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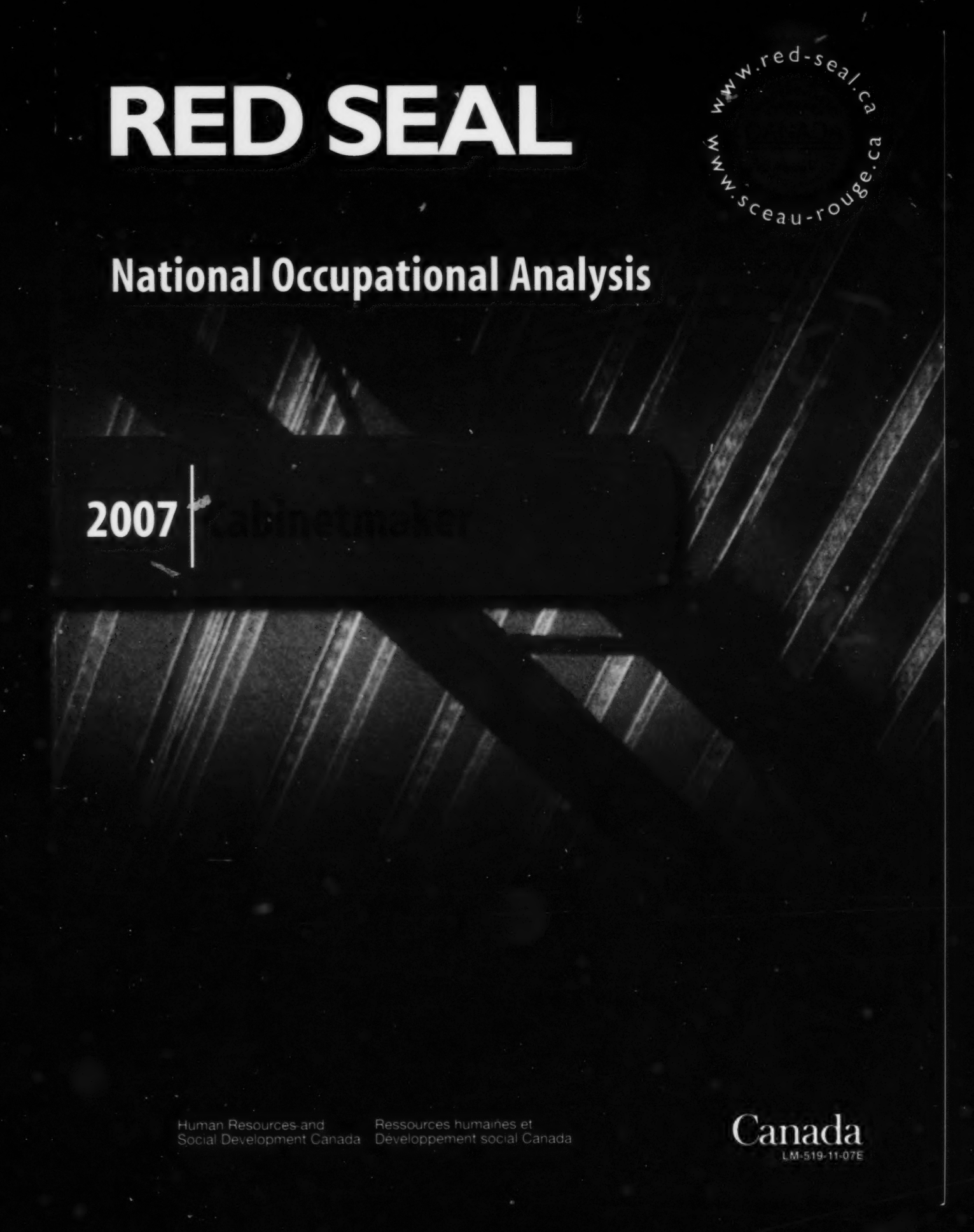
National Occupational Analysis



2007 Cabinetmaker

Human Resources and Social Development Canada
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Occupational Analyses Series

Cabinetmaker

2007

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Workplace Partnerships Directorate	Direction des partenariats en milieu de travail
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The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this National Occupational Analysis as the national standard for the occupation of Cabinetmaker.

Background

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to cooperate with provincial and territorial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources and Social Development Canada (HRSDC) sponsors a program, under the guidance of the CCDA, to develop a series of national occupational analyses.

The National Occupational Analyses have the following objectives:

- to describe and group the tasks performed by skilled workers;
- to identify which tasks are performed in every province and territory;
- to develop instruments for use in the preparation of Interprovincial Red Seal Examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility of apprentices and skilled workers in Canada; and,
- to supply employers, employees, associations, industries, training institutions and governments with analyses of occupations.

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LIST OF PUBLISHED NATIONAL OCCUPATIONAL ANALYSES (Red Seal Trades)

TITLE	NOC* Code
Appliance Service Technician (2005)	7332
Automotive Painter (2005)	7322
Automotive Service Technician (2005)	7321
Baker (2006)	6252
Boilermaker (2003)	7262
Bricklayer (2007)	7281
Cabinetmaker (2007)	7272
Carpenter (2005)	7271
Concrete Finisher (2006)	7282
Construction Electrician (2003)	7241
Cook (2003)	6242
Electrical Rewind Mechanic (1999)	7333
Electronics Technician – Consumer Products (1997)	2242
Farm Equipment Mechanic (2000)	7312
Floorcovering Installer (2005)	7295
Glazier (2004)	7292
Hairstylist (2005)	6271
Heavy Duty Equipment Technician (2004)	7312
Industrial Electrician (2003)	7242
Industrial Mechanic (Millwright) (2007)	7311
Instrumentation and Control Technician (2007)	2243
Insulator (Heat and Frost) (2007)	7293
Ironworker (Generalist) (2006)	7264
Ironworker (Reinforcing) (2006)	7264
Ironworker (Structural/Ornamental) (2006)	7264
Lather (Interior Systems Mechanic) (2002)	7284
Machinist (2005)	7231
Metal Fabricator (Fitter) (2003)	7263

* National Occupational Classification

Mobile Crane Operator (2006)	7371
Motorcycle Mechanic (2006)	7334
Motor Vehicle Body Repairer (Metal and Paint) (2005)	7322
Oil Burner Mechanic (2006)	7331
Painter and Decorator (2007)	7294
Partsperson (2005)	1472
Plumber (2003)	7251
Powerline Technician (2004)	7244
Recreation Vehicle Service Technician (2006)	7383
Refrigeration and Air Conditioning Mechanic (2004)	7313
Roofer (2006)	7291
Sheet Metal Worker (2006)	7261
Sprinkler System Installer (2003)	7252
Steamfitter – Pipefitter (2007)	7252
Tilesetter (2004)	7283
Tool and Die Maker (2005)	7232
Transport Trailer Technician (2003)	7321
Truck and Transport Mechanic (2007)	7321
Welder (2004)	7265

Requests for these National Occupational Analyses may be forwarded to:

Trades and Apprenticeship Division
Workplace Partnership Directorate
Human Resources and Social Development Canada
140 Promenade du Portage, Phase IV, 5th Floor
Gatineau, Quebec K1A 0J9

These publications are also available to order or download online at: www.red-seal.ca.
Links to Essential Skills Profiles for some of these trades are also available on this website.

To facilitate understanding of the nature of the occupation, the work performed is divided into the following categories:

Block	the largest division within the analysis which reflects a distinct set of operations relevant to the occupation.
Task	the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform in a block.
Sub-Task	the smallest division of work activities that, combined together, fully describe all duties of a task.
Supporting Knowledge and Abilities	the elements of skill and knowledge that an individual must acquire to adequately perform a sub-task.

Information on the following areas of this occupation is also provided throughout the analysis:

Trends	any shifts or changes in technology that affect the block.
Context	statements written to clarify the intent and meaning of tasks.
Related Components	all components related to a specified task being undertaken.
Tools and Equipment	types of tools and equipment necessary to perform the work on all given tasks identified within the block. More detailed lists of these types are shown in Appendix A.

The appendices located at the end of the analysis are described as follows:

Appendix A – Tools and Equipment	a non-exhaustive list of tools and equipment used in this trade.
Appendix B – Glossary	definitions or explanations for terms used in this analysis.
Appendix C – Acronyms	a list of acronyms used in this analysis with their full name.
Appendix D – Block and Task Weighting	the block and task percentages as submitted by each jurisdiction at the validation stage and the national averages of these percentages.
Appendix E – Pie Chart	a graph which depicts the national percentages assigned to blocks.
Appendix F – Task Profile Chart	a chart which outlines graphically the blocks, tasks and sub-tasks of this analysis.

Development of Analysis

A draft analysis is developed by a committee of industry experts in the field led by a team of facilitators from HRSDC. This draft analysis breaks down all the tasks performed in the occupation and describes the knowledge and abilities required for a tradesperson to demonstrate competence in the trade.

The NOA development team then forwards a copy of the analysis and its translation to provincial/territorial authorities for a review of its content and structure. Their recommendations are assessed and incorporated into the analysis.

Validation and Weighting Method

This copy of the analysis is sent to all provinces/territories for validation/weighting. Each jurisdiction validates the document with the use of a provincial/territorial occupational advisory committee. They examine the blocks, tasks and sub-tasks of the analysis:

BLOCKS Each committee assigns percentages to blocks based on the number of questions that they would assign for each block on a hundred question examination of the entire trade.

TASKS Each committee assigns percentages to tasks based on the number of questions that would be assigned to each task on a hundred question examination for its block.

SUB-TASKS Sub-tasks are examined by each committee and they indicate with a YES or NO whether or not the sub-tasks are performed by the skilled workers within the occupation in their jurisdiction.

The results of this exercise are submitted to the NOA development team who then analyzes the data and incorporates it into the document. The analysis provides the individual jurisdictional validation results as well as the national averages of all responses. The national averages for block and task weighting provide guidelines for the development of the Interprovincial Red Seal Examination for the trade.

This method for the validation of the National Occupational Analysis also identifies common core sub-tasks across Canada for a specific occupation. The criteria for determining common core depend on the performance of sub-tasks. If at least 70% of the responding jurisdictions perform a sub-task, it shall be considered common core. Interprovincial Red Seal Examinations are based on the common core identified through this validation process.

Definitions for Validation and Weighting

YES	sub-task is performed by workers in the occupation in a specific jurisdiction.
NO	sub-task is not performed by workers in the occupation in a specific jurisdiction.
NV	Not Validated by a province/territory.
ND	Not Designated in a province/territory.
NOT COMMON CORE (NCC)	sub-task, task or block is performed by less than 70% of responding jurisdictions; these are not to appear on the Interprovincial Red Seal Examination for this trade.
BLOCK %	the average percentage of questions that will be placed on an Interprovincial Red Seal Examination to assess each block of the analysis.
TASK %	the average percentage of questions that will be placed on an Interprovincial Red Seal Examination to assess each task of the analysis.

Provincial/Territorial Abbreviations

NL	Newfoundland and Labrador
NS	Nova Scotia
PE	Prince Edward Island
NB	New Brunswick
QC	Quebec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia
NT	Northwest Territories
YT	Yukon Territory
NU	Nunavut

ANALYSIS

Safe working procedures and conditions, accident prevention, and the preservation of health are of primary importance to industry in Canada. These responsibilities are shared and require the joint efforts of government, employers and employees. It is imperative that all parties become aware of circumstances that may lead to injury or harm. Safe learning experiences and work environments can be created by controlling the variables and behaviours that may contribute to accidents or injury.

It is generally recognized that safety-conscious attitudes and work practices contribute to a healthy, safe and accident-free work environment.

It is imperative to apply and be familiar with the Occupational Health and Safety Acts and Workplace Hazardous Materials Information System (WHMIS) Regulations. As well, it is essential to determine workplace hazards and take measures to protect oneself, co-workers, the public and the environment.

As safety education is an integral part of training in all jurisdictions, personal safety practices are not recorded in this document. However, the technical safety aspects relating to each task and sub-task are included throughout this analysis.

SCOPE OF THE CABINETMAKER TRADE

"Cabinetmaker" is this trade's official "Red Seal" occupational title approved by the CCDA. This analysis covers tasks performed by cabinetmakers whose occupational title has been identified by some provinces and territories of Canada under the following names:

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Cabinetmaker				✓		✓		✓	✓		✓	✓	✓
Cabinet maker	✓	✓	✓		✓		✓						
Joiner										✓			

Cabinetmakers build, repair, finish and install residential and commercial cabinets (including hardware), wooden furniture and architectural millwork using a variety of woods and laminates. Cabinetmakers read drawings and specifications, and prepare layouts. They also set up and operate woodworking equipment, both power and computerized, to machine wood products and composite materials. Cabinetmakers use various power tools and precision woodworking tools to perform their work. Cabinetmakers sand and finish the surfaces either before or after assembly. Cabinetmakers prepare surfaces for finishing before or after assembly; in some shops, they also apply finishing products.

Cabinetmakers are employed by millwork contractors, furniture manufacturers and general contractors. They may also be self-employed. The products they produce may be production or custom-made pieces. Production pieces are made in large quantities and according to a standard design. Custom-made pieces are often from one-of-a-kind designs and are not mass-produced. Some cabinetmakers specialize in a specific type of product, such as custom-made furniture, stairs or cabinet doors. In large cabinet making shops using high-tech, computer-controlled equipment, cabinetmakers may specialize in one or two functions. A working knowledge of the design principles, functional requirements, and traditions associated with furniture-building is also advantageous in many areas of Cabinetmaker trade practice.

Cabinetmakers primarily work in a shop environment, but they may also work at locations where the products are installed. While the working environment varies according to employers and locations, cabinetmakers are often exposed to high noise levels, airborne sawdust and chemicals. There are risks of injury involved in working with woodworking machinery, portable power tools and hand tools.

Key attributes for people in this trade are good eye-hand coordination, manual dexterity, mathematical aptitude and good conceptual skills. Cabinetmakers require a high degree of accuracy, and good eyesight to select woods and look for imperfections. The work may require lifting of heavy materials.

This analysis recognizes similarities or overlaps with the work of carpenters and painters/decorators.

With experience, cabinetmakers may act as mentors and trainers to apprentices in the trade. They may also advance to supervisory positions, specialized operations such as stairs, veneering and finishing, or setting up their own shop.

Cabinetmakers must continuously adapt to changing trends, product demands and processes that are introduced by the market-driven industry.

There is a shift in the types of woods and materials used for cabinets and architectural millwork products. Some materials that were previously available are in short supply, resulting in increased cost or difficulties in obtaining them. Man-made or reconstituted materials are entering the market, filling the gap. This results in some modification to processes both in the shop and on-site.

The green market is growing, increasing the demand of non-toxic, user-friendly and eco-friendly products. These are usually identified in specifications, but can increase the cost to the end user.

There is constant improvement in the tools available to cabinetmakers to complete their daily tasks. These include edge clamp tools, laser levels, pneumatic clamps and cordless tools.

Due to advances in technology, computerized equipment is becoming more commonplace. Often, shop drawings are computer-generated and are integrated with the computerized equipment. This results in better quality products, greater efficiency and productivity, and shorter lead times. Also, this technology allows cabinetmakers and customers to view products in a 3 dimensional format prior to ordering and manufacturing.

There is an increase in specialization in the trade with many cabinetmakers working exclusively on operations such as Computer Numerical Controlled (CNC) operation, solid surfacing, finishing and stair construction.

Trends

Communication and documentation skills have become more important to this trade. There is constant improvement in the tools available to cabinetmakers to complete their daily tasks. New technology has introduced more automated machinery, replacing hand tools in many production shops. However, handcrafting skills are still important to the trade. There is more emphasis towards worksite and personal safety.

Related Components

All components apply.

Tools and Equipment

See Appendix A.

Task 1 **Maintains tools and equipment.**

Context

The proper maintenance of tools and equipment is very important to ensure consistent performance and safety of the user.

Sub-task 1.01 **Maintains hand tools.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.01.01	knowledge of types of hand tools
1.01.02	knowledge of limitations of hand tools
1.01.03	ability to clean hand tools
1.01.04	ability to organize and store hand tools
1.01.05	ability to sharpen hand tools such as planes and chisels
1.01.06	ability to recognize worn, damaged or defective tools

Sub-task
1.02 **Maintains portable power tools.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.02.01	knowledge of types of portable power tools such as cordless and corded
1.02.02	knowledge of limitations of portable power tools
1.02.03	ability to clean portable power tools
1.02.04	ability to change components such as belts, blades, bits and knives
1.02.05	ability to organize and store portable power tools
1.02.06	ability to lubricate components
1.02.07	ability to recognize worn, damaged or defective portable power tools

Sub-task
1.03 **Maintains stationary power tools and equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.03.01	knowledge of types of stationary power tools and equipment
1.03.02	knowledge of limitations of stationary power tools and equipment
1.03.03	ability to clean stationary power tools and equipment
1.03.04	ability to change components such as blades, bits and knives
1.03.05	ability to lubricate components
1.03.06	ability to use dust collector during use of stationary power tools and equipment
1.03.07	ability to recognize worn, damaged or defective stationary power tools and equipment

Sub-task
1.04 **Maintains pneumatic tools and equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.04.01	knowledge of types of pneumatic tools such as nailers, staplers and drills
1.04.02	knowledge of pneumatic equipment such as compressors and air dryers
1.04.03	knowledge of limitations of pneumatic tools
1.04.04	ability to clean pneumatic tools
1.04.05	ability to change components such as bits, air hoses and fittings
1.04.06	ability to lubricate components
1.04.07	ability to organize and store pneumatic tools and equipment
1.04.08	ability to drain compressors and air dryers
1.04.09	ability to recognize worn, damaged or defective pneumatic tools and equipment

Sub-task
1.05 **Maintains powder-actuated tools.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.05.01	knowledge of types of powder-actuated tools
1.05.02	knowledge of training and certification requirements for the use and maintenance of powder-actuated tools
1.05.03	knowledge of limitations of powder-actuated tools
1.05.04	knowledge of hazards associated with powder-actuated tools
1.05.05	ability to clean and lubricate powder-actuated tools
1.05.06	ability to organize and store powder-actuated tools and charges
1.05.07	ability to recognize worn, damaged or defective powder-actuated tools

Sub-task
1.06 **Maintains finishing equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.06.01	knowledge of types of finishing equipment such as sprayers, brushes and spray booth
1.06.02	knowledge of lighting and ventilation requirements
1.06.03	knowledge of cleaning supplies such as solvents, lacquer thinners and rags
1.06.04	knowledge of pneumatic equipment such as compressors, gauges and filters
1.06.05	knowledge of health hazards associated with handling solvents and lacquer thinners
1.06.06	ability to change filters
1.06.07	ability to clean and lubricate finishing equipment
1.06.08	ability to store finishing equipment
1.06.09	ability to store solvents and lacquer thinners
1.06.10	ability to recognize worn, damaged or defective finishing equipment

Sub-task
1.07 **Maintains personal protective equipment (PPE) and safety equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

1.07.01	knowledge of types of PPE such as eye protection, hearing protection, foot protection and respiratory protection equipment
1.07.02	knowledge of types of safety equipment such as eye wash station, fire extinguishers and first aid kits
1.07.03	ability to clean PPE and safety equipment
1.07.04	ability to change respirator filters
1.07.05	ability to store PPE and safety equipment
1.07.06	ability to recognize worn, damaged or defective PPE and safety equipment

Task 2 Organizes work.

Context The ability to communicate with customers and other trades persons, as well as interpret documentation and prints, allows cabinetmakers to organize their work efficiently and safely.

Sub-task 2.01 Communicates with others.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.01.01	knowledge of trade terminology
2.01.02	ability to explain technical information
2.01.03	ability to acquire information through questioning
2.01.04	ability to communicate with customers
2.01.05	ability to communicate with suppliers
2.01.06	ability to communicate with supervisors
2.01.07	ability to consult with colleagues
2.01.08	ability to communicate with other tradespeople
2.01.09	ability to mentor apprentices

Sub-task 2.02 Uses documentation.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.02.01	knowledge of types of documentation such as work orders and plans
2.02.02	knowledge of safety documentation such as Workplace Hazardous Materials Information System (WHMIS) labels and Material Safety Data Sheets (MSDS)
2.02.03	ability to locate information

2.02.04	ability to use reference material such as hardware manuals and manufacturers' directions
2.02.05	ability to interpret manufacturers' specifications
2.02.06	ability to interpret jurisdictional and national codes
2.02.07	ability to complete work-related records
2.02.08	ability to document issues such as hazards and worksite problems

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Sub-task
2.03 **Interprets prints and drawings.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.03.01	knowledge of types of drawings such as rough sketches, shop drawings and plans
2.03.02	knowledge of drawing specifications
2.03.03	knowledge of types of views such as plan, elevation, section and detail
2.03.04	ability to locate information in plans and drawings
2.03.05	ability to make notes from prints and drawings
2.03.06	ability to produce material take offs
2.03.07	ability to recognize symbols on architectural drawings such as mechanical and electrical symbols

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Sub-task
2.04 **Plans project tasks.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.04.01	knowledge of sequencing of work
2.04.02	knowledge of scheduling work with other trades
2.04.03	knowledge of project scheduling

2.04.04	ability to set daily, weekly and project objectives
2.04.05	ability to determine material requirements
2.04.06	ability to determine tool and equipment requirements
2.04.07	ability to determine labour requirements

Sub-task
2.05 **Performs basic design.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.05.01	knowledge of characteristics and applications of materials and hardware
2.05.02	knowledge of standard dimensions such as table and chair heights and counter heights
2.05.03	knowledge of value of materials
2.05.04	knowledge of location of installed cabinets, stairs and architectural millwork
2.05.05	ability to interpret client needs and preferences
2.05.06	ability to draw a sketch such as rough, isometric and orthographic
2.05.07	ability to maximize yield from materials

Sub-task
2.06 **Performs layout of cabinets, furniture and architectural millwork.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.06.01	knowledge of quality and characteristics of materials and hardware
2.06.02	knowledge of layout materials such as hardboard and medium density fibreboard (MDF)
2.06.03	ability to use layout tools such as trammel points, straight edges and tape measures
2.06.04	ability to transfer print information and specifications to full scale layout

2.06.05	ability to use site measurements
2.06.06	ability to template site conditions
2.06.07	ability to recognize and resolve potential construction challenges such as inaccessibility, obstacles and services
2.06.08	ability to perform basic geometric calculations
2.06.09	ability to visualize product in three dimensions

Sub-task
2.07 **Maintains safe work environment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

2.07.01	knowledge of WHMIS
2.07.02	knowledge of location of manuals such as MSDS and Occupational Health and Safety (OH&S) manuals
2.07.03	knowledge of workers' rights and responsibilities
2.07.04	knowledge of company safety policies and procedures
2.07.05	knowledge of training requirements for using tools and equipment
2.07.06	knowledge of manufacturers' specifications of tools and equipment
2.07.07	knowledge of OH&S requirements for work area
2.07.08	knowledge of location and use of safety equipment such as eye wash station, fire extinguishers and first aid kits
2.07.09	knowledge of emergency procedures such as evacuation and fire drills
2.07.10	knowledge of health hazards associated with handling solvents and lacquer thinners
2.07.11	knowledge of disposal and recycling procedures
2.07.12	ability to recognize personal injury hazards such as slippery surfaces, uneven loads and fumes from finishing products
2.07.13	ability to prevent hazards and unsafe practices
2.07.14	ability to maintain a clean workshop and installation site
2.07.15	ability to ensure adequate ventilation

2.07.16 ability to store volatile materials such as propane bottles and hazardous chemicals

2.07.17 ability to use PPE such as hearing protection, eye protection, foot protection and respiratory protection equipment

Task 3 Performs routine trade activities.

Context These are some of the repetitive duties that may be performed throughout the trade.

Sub-task 3.01 Measures.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.01.01 knowledge of metric and imperial measurement systems

3.01.02 knowledge of site measurements

3.01.03 ability to use measuring devices such as tape measure, scaled rulers and moisture meters

3.01.04 ability to measure irregular shapes and profiles

Sub-task 3.02 Installs hardware.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.02.01 knowledge of types of cabinet and furniture hardware such as hinges, slides, locks and pulls

3.02.02 knowledge of door hardware such as door hinges, handles and closers

3.02.03	knowledge of the 32 mm system
3.02.04	knowledge of clearances and tolerances
3.02.05	ability to recognize potential challenges such as location of handles, knobs and mounting plates
3.02.06	ability to adapt to specialty hardware such as retractable door hardware and blind corner hardware
3.02.07	ability to use hardware installation tools such as mortising jig, hinge kit, door handle jig, router and drill
3.02.08	ability to manually position hardware

Sub-task
3.03 **Handles materials, supplies and products.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.03.01	knowledge of storage requirements
3.03.02	knowledge of company policies for material handling and shipping
3.03.03	knowledge of handling procedures for sheet good materials during fabrication
3.03.04	knowledge of transportation limitations and accessibility of the installation site
3.03.05	knowledge of acclimatization requirements
3.03.06	ability to verify products received against purchase order and for damage
3.03.07	ability to pack and wrap product to prevent damage during transport
3.03.08	ability to assess size and weight limitations for handling products
3.03.09	ability to temporarily protect product after installation

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Sub-task
3.04 **Sands components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.04.01	knowledge of types of sandpaper such as paper-backed and cloth-backed
3.04.02	knowledge of grit and weight
3.04.03	knowledge of sanding methods such as stroke sanding and edge sanding
3.04.04	ability to use sanding tools and equipment such as stationary sanders, orbital sanders, belt sanders and palm sanders
3.04.05	ability to sand manually

Sub-task
3.05 **Fabricates jigs and templates.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.05.01	knowledge of limitations of jigs and templates
3.05.02	knowledge of jig and template materials
3.05.03	ability to use layout and machining tools to produce jigs and templates
3.05.04	ability to select jig and template material for job requirements
3.05.05	ability to try out jig to determine its accuracy
3.05.06	ability to label jigs and templates
3.05.07	ability to make template for scribing

Sub-task
3.06 **Builds prototypes.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.06.01	knowledge of function of prototypes
3.06.02	knowledge of customer requirements
3.06.03	knowledge of layout and design
3.06.04	ability to select material for prototype

3.06.05	ability to recognize and resolve potential construction challenges such as inaccessibility, obstacles and services
3.06.06	ability to test and modify prototypes

Sub-task
3.07 **Applies edge to substrate.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.07.01	knowledge of types of edge treatments such as polyvinyl chloride (PVC), solid wood and high pressure laminate (HPL)
3.07.02	knowledge of adhesives used for substrates and edge treatment
3.07.03	ability to adhere edge to substrate using clamps
3.07.04	ability to trim and flush edges
3.07.05	ability to use edge banders
3.07.06	ability to clean edges

Sub-task
3.08 **Dry fits components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

3.08.01	knowledge of purpose of dry fit
3.08.02	knowledge of assembly procedures
3.08.03	knowledge of finished product dimensions and requirements
3.08.04	ability to use clamping devices such as bar clamps, band clamps and case clamps
3.08.05	ability to identify and correct defects/faults in construction

BLOCK B — MACHINING

Trends

New technology (such as automated machines) will place more technical demands on cabinetmakers. However, cabinetmakers still require substantial skills on stationary and portable power tools. They need to continually upgrade their skills to keep pace with technological change.

Related Components

Solid wood, plastics, sheet materials, metal components.

Tools and Equipment

Hand tools, portable power tools, stationary power tools, measuring tools, automated equipment, PPE and safety equipment.

Task 4 — Machines components using stationary and portable power tools.

Context

Cabinetmakers prepare wood and sheet goods in a variety of shapes and sizes according to plans and specifications. This process modifies materials, changing them from an unfinished state to a finished state when they are ready to be assembled.

Sub-task 4.01 — Breaks out solid wood.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.01.01	knowledge of machinery used for breaking out solid wood
4.01.02	knowledge of properties and characteristics of wood such as grain and colours
4.01.03	knowledge of required dimensions and quantities
4.01.04	ability to check moisture content
4.01.05	ability to use machinery such as table saws, band saws and cut-off saws
4.01.06	ability to recognize faults and defects in material such as knot and checks

Sub-task
4.02 **Dresses solid wood.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.02.01	knowledge of properties and characteristics of wood
4.02.02	knowledge of sequence of dressing operations
4.02.03	knowledge of procedures prior to operation of machinery
4.02.04	knowledge of dimensions of finished product
4.02.05	ability to read board characteristics such as crooks and grain direction
4.02.06	ability to use machinery such as jointers, planers and table saws
4.02.07	ability to surface, edge, square and plane materials to desired width and thickness
4.02.08	ability to match grain and colour
4.02.09	ability to cut to length

Sub-task
4.03 **Shapes solid wood.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.03.01	knowledge of shape required from plans and specifications
4.03.02	knowledge of wood characteristics such as grain direction and density of material
4.03.03	ability to use machinery such as routers, lathes and shapers
4.03.04	ability to use portable power tools such as hand routers and portable power planers
4.03.05	ability to select and change cutting tool components such as blades, knives and chisels
4.03.06	ability to use holding devices to hold jig to project
4.03.07	ability to use jigs and templates to shape solid wood
4.03.08	ability to create inlays

Sub-task
4.04 **Breaks out sheet materials.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.04.01	knowledge of properties and characteristics of plywood
4.04.02	knowledge of composite sheet materials such as melamine, particle board, MDF and hardboard
4.04.03	knowledge of available sheet good sizes such as 4 ft. x 8 ft. and 5 ft. x 12 ft.
4.04.04	ability to use machining equipment such as table saws and panel saws
4.04.05	ability to select machining components
4.04.06	ability to cut material according to size requirements
4.04.07	ability to use plan and specification information to determine dimensions, quantities and yields

Sub-task
4.05 **Machines sheet materials.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.05.01	knowledge of properties and characteristics of plywood
4.05.02	knowledge of composite sheet materials such as melamine, particle board, MDF and hardboard
4.05.03	ability to use machining equipment such as saws, overhead routers and multiple boring machines
4.05.04	ability to use portable power tools such as portable routers, drills and belt sanders
4.05.05	ability to select machining components such as bits and blades

4.05.06	ability to prepare to receive edging where applicable
4.05.07	ability to cut materials square to width and length
4.05.08	ability to use holding devices to hold jig to project
4.05.09	ability to use jigs and templates for applications such as shaping sheet materials, drilling and cutting access holes
4.05.10	ability to use plan and specification information to determine machining requirements such as locations of shelf lines and hardware
4.05.11	ability to create inlays

Sub-task 4.06 **Machines joints.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

4.06.01	knowledge of types of assembly joints such as dovetails, rabbets, dowel joints, dados and mitres
4.06.02	knowledge of characteristics of material
4.06.03	ability to select, set up and use equipment such as table saws and overhead routers
4.06.04	ability to use templates
4.06.05	ability to determine application and location of joints

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Task 5 Machines components using automated equipment.

Context Automated equipment is computer numerically controlled (CNC). It is programmed by cabinetmakers to produce pieces accurately and efficiently.

Sub-task 5.01 **Sets up automated equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

5.01.01	knowledge of types of automated equipment such as CNC machining centres, CNC edge banders and CNC beam saws
5.01.02	knowledge of computer applications and basic CNC programming
5.01.03	knowledge of limitations of automated equipment
5.01.04	ability to load and run basic programs
5.01.05	ability to select and change cutting components such as blades and bits
5.01.06	ability to set up operations to machine components such as sink cut-outs, cabinet sides, custom tops and inlays
5.01.07	ability to maintain automated equipment to keep it clean and lubricated according to manufacturers' specifications

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Sub-task
5.02 **Operates automated equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

5.02.01	knowledge of types of automated equipment such as CNC machining centres, CNC edge banders and CNC beam saws
5.02.02	ability to run a test piece
5.02.03	ability to select material for loading
5.02.04	ability to load and unload material
5.02.05	ability to recognize and correct performance problems such as chipping and burning

BLOCK C FORMING AND LAMINATING

Trends

There has been improvement in the clamping devices used for bending wood and composite materials. Some adhesives such as waterproof glues have been improved and are now more user-friendly.

Bendable plywoods have made forming irregular shapes more consistent and easier for the cabinetmaker.

Related Components

Forming: store and office fixtures, walls, chair backs, window treatment, railings, mouldings, columns.

Laminating: cabinet door panels, table tops, edge treatments, butcher block tops, stair components.

Tools and Equipment

Hand tools, stationary power tools and equipment, portable power tools, pneumatic tools and equipment, PPE and safety equipment.

Task 6 Bends wood and composite materials.

Context

Cabinetmakers produce curves and irregular shapes from wood and composite materials for use in products such as railings, crown mouldings, store and office fixtures, and window treatments. This process includes creating layouts, building forms, as well as bending and laminating solid and composite material.

Sub-task 6.01 Builds forms.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

6.01.01	knowledge of form materials such as plywood, steel and solid wood
6.01.02	knowledge of types of form construction such as shaped wall two-part moulds
6.01.03	knowledge of types of fasteners such as screws, nails and staples

6.01.04	ability to use applied geometry
6.01.05	ability to use layout tools
6.01.06	ability to generate and follow templates and layouts
6.01.07	ability to apply adhesives when building forms
6.01.08	ability to design and fabricate forms and steam-bending boxes
6.01.09	ability to match type of form to application
6.01.10	ability to machine and assemble form components

Sub-task
6.02 **Performs curved laminating.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

6.02.01	knowledge of wood and composite material properties such as density and flexibility
6.02.02	knowledge of sequence of lamination
6.02.03	knowledge of spring-back of curved laminating materials
6.02.04	knowledge of types of fasteners
6.02.05	knowledge of types of clamps such as band, C, edge and bar
6.02.06	knowledge of types of joints used in laminating such as scarf and butt
6.02.07	knowledge of final sizing techniques
6.02.08	ability to position joints in successive layers
6.02.09	ability to apply adhesives such as polyvinyl acetate (PVA) and resin glues, and epoxies
6.02.10	ability to use tools such as clamps, drills and pneumatic nailers

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Sub-task
6.03 **Steam-forms wood.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

6.03.01	knowledge of wood properties
6.03.02	knowledge of moisture content of woods
6.03.03	knowledge of methods of bending wood with steam
6.03.04	knowledge of length of time required for different thicknesses of wood
6.03.05	ability to construct steam-bending box
6.03.06	ability to clamp wood to form after steaming

Task 7 — Laminates wood and composite materials.

Context The proper sequence and arrangement of pieces is critical when laminating wood and composite materials. Proper selection and use of adhesives and clamping devices will ensure quality lamination.

Sub-task 7.01 — Arranges materials for laminating.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

7.01.01	knowledge of types of laminated products such as butcher block tops, flat layers, tables and panels
7.01.02	knowledge of common laminating procedures
7.01.03	knowledge of dimensions of materials to be laminated
7.01.04	knowledge of wood properties
7.01.05	knowledge of grain direction of materials to be laminated
7.01.06	ability to recognize defects
7.01.07	ability to arrange pieces to prevent warping and cupping

Sub-task

7.02 **Applies adhesive for laminating.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

7.02.01	knowledge of types of adhesives such as PVA, epoxies, waterproof and urea formaldehyde adhesive
7.02.02	knowledge of sequence of lamination
7.02.03	knowledge of properties of adhesives such as open time, setup time and curing time
7.02.04	knowledge of wood properties such as absorption rate, presence of oils moisture content
7.02.05	knowledge of application methods such as rolling, brushing and spraying
7.02.06	ability to select adhesive for various applications
7.02.07	ability to determine quantity of adhesive required for various woods

Sub-task

7.03 **Clamps pieces together.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

7.03.01	knowledge of common clamping techniques
7.03.02	knowledge of sequence of laminating
7.03.03	knowledge of density of woods and composite materials
7.03.04	knowledge of properties of adhesives such as open time, setup time and curing time
7.03.05	ability to use clamps such as bar, C, pneumatic and electric
7.03.06	ability to apply required pressure

BLOCK D VENEERS AND LAMINATES

Trends

Some traditional species of veneer woods (such as Honduras mahogany) are declining, resulting in the introduction of new types of veneers that are in greater supply. Reconstituted veneers are becoming more common, providing options to customers. New laminate finishes are being produced by manufacturers, including pre-finished real wood surfaces. Also, imitation wood laminates are more closely mimicking real wood.

Related Components

Substrates: MDF, particle board, veneer core.

Veneers: wood, reconstituted.

Laminates: plastic, metal, wood.

Tools and Equipment

Hand tools, portable power tools, spray equipment, stationary power tools and equipment, PPE and safety equipment.

Task 8 Applies veneers.

Context

Cabinetmakers must understand the methods and techniques used for bonding veneer to a variety of substrates according to the design requirements and specifications. For the purpose of this analysis, veneers are made of wood and do not have any backing.

Sub-task 8.01 Prepares veneers.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

8.01.01	knowledge of species of veneers such as oak, cherry and maple
8.01.02	knowledge of reconstituted veneers
8.01.03	knowledge of methods of cutting veneers
8.01.04	knowledge of cuts of veneers such as rotary, flat and quarter

8.01.05	knowledge of matching veneers such as book, slip and diamond
8.01.06	knowledge of veneer storage techniques
8.01.07	ability to use tools and equipment to cut and stitch veneers such as edge gluers and stitchers
8.01.08	ability to select veneers
8.01.09	ability to match veneers
8.01.10	ability to repair veneers

Sub-task
8.02 **Adheres veneers to substrates.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

8.02.01	knowledge of types of adhesives
8.02.02	knowledge of types of substrates
8.02.03	ability to apply adhesives
8.02.04	ability to press veneer to the substrate by methods such as vacuum press, hot press and cold press

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Sub-task
8.03 **Trims veneers.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

8.03.01	knowledge of veneer trimming techniques
8.03.02	knowledge of wood grain characteristics related to trimming
8.03.03	ability to trim excess veneer
8.03.04	ability to use tools and equipment such as rasps, sanding blocks, files, routers, planes and trimmers

Task 9 — Applies laminates.

Context

Cabinetmakers apply laminate to a variety of substrates to provide a durable, sanitary and decorative finish. For the purpose of this analysis, veneers with backing are considered laminates as the handling techniques are the same.

Sub-task 9.01 — Prepares laminate sheets.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

9.01.01	knowledge of types, finishes, sizes and uses of laminate sheets
9.01.02	knowledge of laminate properties such as flexibility and grades
9.01.03	ability to use tools and equipment for cutting laminate sheets such as laminate knives, routers and saws
9.01.04	ability to handle laminate sheets
9.01.05	ability to cut laminate sheets according to specifications
9.01.06	ability to joint laminate
9.01.07	ability to store laminate sheets

Sub-task 9.02 — Adheres laminate to substrate.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

9.02.01	knowledge of types of adhesives
9.02.02	knowledge of types of substrates
9.02.03	knowledge of hazards associated with adhesives

9.02.04	ability to apply adhesives to substrate by using methods such as rolling, brushing and spraying
9.02.05	ability to use tools and equipment such as presses, rollers, j-rollers, spray guns and brushes
9.02.06	ability to apply laminate to substrates
9.02.07	ability to seam laminate

Sub-task
9.03 **Trims laminate.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

9.03.01	knowledge of trimming techniques
9.03.02	knowledge of solvents
9.03.03	ability to trim excess laminate
9.03.04	ability to use tools and equipment such as router and bits, hand planes and trimmers
9.03.05	ability to file laminate
9.03.06	ability to clean excess adhesives

BLOCK E — SHOP ASSEMBLY

Trends

Innovative or improved products that are becoming popular include cabinet leg levellers, pneumatic clamping devices, lockable biscuits and two part adhesives. CNC machining makes in-shop assembly more consistent and accurate.

Related Components

Cabinet components: gables, tops and bottoms, doors, bases, dividers, shelves, face frames, panels, drawers, backs.

Furniture components: legs, arms, backs, aprons, seats, tops, mouldings.

Architectural millwork: sidelights, doors, door frames, wainscoting, store fixtures, wall panels, columns, mouldings.

Tools and Equipment

Hand tools, portable power tools, stationary power tools and equipment, pneumatic tools, PPE and safety equipment.

Task 10 — Assembles cabinets and furniture.

Context

Cabinets are wood or composite products that are permanently fastened in place while furniture is generally freestanding. Cabinetmakers perform assembly of cabinets and furniture in the shop prior to shipping them to the site. They must always be aware of the conditions and accessibility of the installation site.

Sub-task 10.01 — **Assembles cabinet components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

10.01.01	knowledge of cabinet components such as gables, tops, bottoms, doors and drawers
10.01.02	knowledge of fasteners such as dowels, biscuits and screws

10.01.03	knowledge of drawer components such as sides, bottoms and backs
10.01.04	knowledge of types of adhesives
10.01.05	ability to check measurements before assembly
10.01.06	ability to apply adhesive
10.01.07	ability to ensure components are true and square
10.01.08	ability to clamp cabinet components
10.01.09	ability to use assembly tools and equipment such as pneumatic nailers, drills and dowel insertion machines

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Sub-task
10.02 **Assembles furniture components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

10.02.01	knowledge of types of furniture such as tables, chairs, beds and desks
10.02.02	knowledge of furniture components such as legs, aprons, arms and backs
10.02.03	knowledge of standard measurements such as height of chairs, tables and desks
10.02.04	knowledge of expansion and contraction of solid wood and sheet goods
10.02.05	knowledge of furniture joints such as dovetail, mortise and tenon, and dados
10.02.06	knowledge of furniture fasteners such as corner brackets, biscuits and dowels
10.02.07	knowledge of furniture hardware such as drop leaf hinge, table slides and swivels
10.02.08	ability to apply adhesive to furniture components
10.02.09	ability to use furniture clamps such as band clamps, C clamps and corner clamps
10.02.10	ability to ensure components are true and square
10.02.11	ability to use assembly and fastening tools and equipment such as nailers, staplers and mallets

Sub-task
10.03 **Installs doors and drawer fronts.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

10.03.01	knowledge of types of doors such as raised panel, flat panel, tambour and slab
10.03.02	knowledge of types of door and drawer front applications such as overlay, inset and retractable
10.03.03	knowledge of door hinges such as concealed, butt, piano and scissor
10.03.04	knowledge of types of drawer hardware such as integrated slides, full-extension slides and soft-closing
10.03.05	ability to align door and drawer fronts
10.03.06	ability to ensure uniform door clearances
10.03.07	ability to adjust door and drawer hardware
10.03.08	ability to fasten drawer front to drawer using fasteners such as screws, glues and RTA (ready-to-assemble) fittings

Sub-task
10.04 **Installs face frames.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

10.04.01	knowledge of fastening hardware such as pocket screws and biscuits
10.04.02	knowledge of door and drawer front clearances
10.04.03	knowledge of sequence of installation of stiles and rails
10.04.04	knowledge of hardware to be mounted onto face-frames
10.04.05	ability to glue and clamp face frames
10.04.06	ability to pre-assemble face frames prior to installation

Task 11 Assembles architectural millwork products.

Context Cabinetmakers assemble architectural millwork products in the shop because it is convenient, efficient and cost effective and reduces installation time. They must always be aware of the conditions and accessibility of the installation site.

Sub-task 11.01 Assembles components into sections in the shop.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

11.01.01	knowledge of components such as sidelights, wall panels, columns, door frames, and window frames and sashes
11.01.02	knowledge of joints such as butt, rabbet, and mortise and tenon
11.01.03	knowledge of types of fasteners such as concealed fasteners, screws and toggle fasteners
11.01.04	knowledge of adhesives
11.01.05	ability to assemble components such as sidelights, wall panels, columns and doors
11.01.06	ability to pre-fit components in larger sections
11.01.07	ability to secure components using fasteners and clamps

Sub-task 11.02 Combines sections into architectural millwork products in the shop.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

11.02.01	knowledge of types of architectural millwork products such as door frames, store and office fixtures, wainscoting, crown and base mouldings, columns, wall cladding and windows

11.02.02	knowledge of sequence of assembly in the shop and on-site
11.02.03	knowledge of types of fasteners such as lockable biscuits and flat metal brackets
11.02.04	knowledge of glass installation for products such as display cases and side lights
11.02.05	ability to construct architectural millwork products in sections taking into consideration accessibility of the installation site
11.02.06	ability to assemble and disassemble complete product in shop
11.02.07	ability to identify and mark various sections of final product for site assembly and installation
11.02.08	ability to verify final dimensions of assembled product
11.02.09	ability to modify sections to fit installation site
11.02.10	ability to accommodate for electrical and mechanical components

BLOCK F — FINISHING

Trends

Finishing is a specialized part of the trade. There are more specialized and advanced techniques such as distressing, glazing and antiquing that require additional training. Many businesses are incorporating spraying in their production processes by having spraying systems in their shops. There are more environmental concerns regarding finishing products and processes, with more regulations in place regarding the products and their disposal.

Related Components

Cabinets, furniture, architectural millwork products, stairs.

Tools and Equipment

Finishing equipment, hand tools, portable power tool, stationary power tools, PPE and safety equipment.

Task 12 — Prepares surface for finishing.

Context

Preparing the surface is important to provide products that are ready to accept the final finish.

Sub-task 12.01 — Repairs minor imperfections.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

12.01.01	knowledge of material properties such as species of wood, cuts of wood and grain
12.01.02	ability to use tools and equipment such as utility knives, irons, sandpaper and rags
12.01.03	ability to apply wood filler
12.01.04	ability to cut and patch defects and imperfections such as dents, broken corners and scratches

12.01.05 ability to steam wood to remove dents

12.01.06 ability to hide imperfections by staining, bleaching and toning

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Sub-task 12.02 **Performs final sanding of surfaces.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

12.02.01 knowledge of material to be finished

12.02.02 knowledge of abrasive supplies such as sandpaper and steel wool

12.02.03 knowledge of the types of sandpaper such as aluminium oxide and garnet

12.02.04 knowledge of abrasive grits such as 100, 120 and 220

12.02.05 knowledge of sanding procedures

12.02.06 knowledge of the sequence in which the parts are to be sanded

12.02.07 ability to use tools and equipment such as scrapers, sanding blocks, orbital sanders and stationary sanders

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Task 13 Finishes wood products.

Context Cabinetmakers should know the basics of finishing. It is important to understand how finishing materials are applied and how they affect the final product.

Sub-task 13.01 **Prepares finishing materials.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

13.01.01 knowledge of finishing materials such as lacquers, paints and polyurethane

13.01.02	knowledge of additives such as of solvents, dryers and retarders
13.01.03	knowledge of WHMIS
13.01.04	knowledge of hazards associated with preparing finishes
13.01.05	ability to use PPE such as respirators, gloves and eye protection
13.01.06	ability to follow manufacturers' specifications
13.01.07	ability to make finishes by mixing components such as catalysts and lacquers
13.01.08	ability to change finishes by altering tints, colours and sheens
13.01.09	ability to use tools and equipment such as mixers, filters and strainers

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Sub-task
13.02 **Applies finishing material manually.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

13.02.01	knowledge of manual finishing techniques such as brushing, wiping and rolling
13.02.02	knowledge of finishing material properties such as drying time, final look and durability
13.02.03	knowledge of wood properties such as stability and absorption rate
13.02.04	knowledge of hazards associated with finishing products such as flammability, fumes and toxicity
13.02.05	knowledge of finishing problems such as blushing and orange peeling
13.02.06	ability to utilize safety procedures such as ventilation, storage and disposal of material
13.02.07	ability to use PPE and safety equipment such as respirators, safety goggles, gloves and coveralls
13.02.08	ability to identify the method of application of finishing material
13.02.09	ability to use tools and equipment for applying finishing material manually
13.02.10	ability to follow finishing techniques required for brushing, wiping and rolling

Sub-task
13.03 **Sprays on finishing material.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

13.03.01	knowledge of spray finishing techniques
13.03.02	knowledge of finishing materials that can be sprayed such as lacquers, polyurethane, and latex and oil based paints
13.03.03	knowledge of spraying systems such as high-volume/low-pressure and air assisted/airless
13.03.04	knowledge of wood properties such as stability and absorption rate
13.03.05	knowledge of hazards associated with finishing products such as flammability, fumes and toxicity
13.03.06	knowledge of finishing problems such as pin-holing, fish eyes and orange peeling
13.03.07	ability to utilize safety procedures such as ventilation, storage and disposal of material
13.03.08	ability to use PPE and safety equipment such as respirators, safety goggles, gloves and coveralls
13.03.09	ability to use tools and equipment such as spray booths, air guns, compressors, airless sprayers and pressure pots
13.03.10	ability to apply spray finishing techniques such as angles and patterns

BLOCK G — ON-SITE ASSEMBLY AND INSTALLATION

Trends

New tools and products such as laser levels, wall anchors and leveller legs are becoming more popular. There is an increase in the use of cordless tools such as drills, impact drills and jigsaws. Hoseless pneumatic tools using CO_2 or butane have been introduced and are becoming more common. There is a decrease in the use of hand tools.

Related Components

Cabinets: carcasses, doors, drawers, bases, fillers, countertops.
Architectural millwork: mouldings, panels, columns, store and office fixtures, doors and window frames.

Tools and Equipment

Hand tools, portable power tools, measuring and layout equipment, powder-actuated tools, pneumatic tools, PPE and safety equipment.

Task 14 — Modifies products to site conditions.

Context

Products often require modifications on-site prior to final installation. Plumbing, electrical and heating access holes may need to be cut and scribing is often done to ensure the product is tight fitting to uneven surfaces. Final adjustments are also done by the cabinetmaker to ensure that the product is functional and aesthetically pleasing.

Sub-task 14.01 — Cuts access holes on site.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

14.01.01	knowledge of types of access holes such as electrical, heating and plumbing
14.01.02	knowledge of concerns related to working with utilities such as electrical, heating and plumbing
14.01.03	knowledge of finishing trim such as grommets and grills

14.01.04	ability to determine reference point for locating access holes
14.01.05	ability to use tools and equipment such as jigsaw, measuring tape, level, drill and router

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Sub-task 14.02 **Scribes to fit on site.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

14.02.01	knowledge of sequence of scribing operations such as setting products in place, marking the profile and cutting the profile
14.02.02	ability to recognize untrue surfaces such as walls, ceilings and floors
14.02.03	ability to set products in place plumb and level
14.02.04	ability to mark profile of surface using tools such as compasses, pencils and blocks, and contour gauge
14.02.05	ability to cut profile using tools such as planes, jigsaws and belt sanders
14.02.06	ability to protect surface of product using tape and cardboard

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Sub-task 14.03 **Finalizes installation on site.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

14.03.01	knowledge of components that may require adjustments such as door and drawer hardware
14.03.02	knowledge of types of hardware such as hinges, slides, locks and handles
14.03.03	ability to use hand tools to adjust hardware
14.03.04	ability to apply sealants such as latex caulking and silicone
14.03.05	ability to fix imperfections for final inspection

Task 15 Installs cabinets and countertops.

Context Cabinets often arrive at the installation site in sections and have to be assembled and fastened in the proper sequence. Cabinetmakers have to securely install cabinets plumb and level to ensure proper operation of hardware and cabinet components.

Sub-task 15.01 Performs final on-site assembly of cabinets and countertops.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

15.01.01	knowledge of cabinet construction
15.01.02	knowledge of site conditions such as humidity and temperature
15.01.03	knowledge of sequence of on-site assembly as indicated on shop drawings
15.01.04	knowledge of sequence of work done by other trades
15.01.05	knowledge of fasteners such as screws, nails, RTA fasteners and draw bolts
15.01.06	knowledge of types of countertops such as post form and self edge
15.01.07	ability to position cabinets on walls and floor using tools such as laser level, hand level and measuring tape
15.01.08	ability to use assembly tools such as portable power tools, levels, pneumatic tools and clamps
15.01.09	ability to apply adhesives
15.01.10	ability to level and plumb cabinets using devices such as levelling legs and shims
15.01.11	ability to assemble countertop components together
15.01.12	ability to ensure cabinets are flush and aligned

Sub-task 15.02 Fastens cabinets and countertops.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

15.02.01	knowledge of cabinet construction
15.02.02	knowledge of wall, ceiling and floor construction and finish
15.02.03	knowledge of fasteners such as wood screws, concrete screws and wall anchors
15.02.04	knowledge of utilities in wall, floor and ceiling
15.02.05	knowledge of installation techniques for fastening solid wood tops
15.02.06	ability to apply adhesives
15.02.07	ability to use hand and power tools
15.02.08	ability to use temporary holding devices
15.02.09	ability to find structural components such as studs, joists and trusses

Task 16 — Installs architectural millwork products.

Context Cabinetmakers use various techniques and fasteners to assemble and install architectural millwork products that arrive on the installation site in sections. Often, mouldings are installed to enhance the overall appearance of the products.

Sub-task 16.01 — Performs final on-site assembly of architectural millwork products.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

16.01.01	knowledge of architectural millwork products such as wainscoting, doors, frames and store fixtures
16.01.02	knowledge of hardware
16.01.03	ability to apply adhesives
16.01.04	ability to assemble components in sequence using labelling systems
16.01.05	ability to use tools such as mitre saws, pneumatic tools and clamping tools
16.01.06	ability to level and plumb products

Sub-task
16.02 **Fastens architectural millwork products.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

16.02.01	knowledge of wall and ceiling construction and finish
16.02.02	knowledge of fasteners such as finish screws, concrete screws, toggles and wall anchors
16.02.03	ability to apply adhesives
16.02.04	ability to use tools such as drills, hammer drills and pneumatic tools
16.02.05	ability to shim architectural products when fastening
16.02.06	ability to counter bore and plug
16.02.07	ability to use blind fasteners such as ledger strips, French cleats and keyhole slots

Sub-task
16.03 **Installs mouldings.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

16.03.01	knowledge of types of mouldings such as base, case, crown and chair rail
16.03.02	knowledge of joints such as mitre, cope, butt and scarf
16.03.03	knowledge of adhesives
16.03.04	knowledge of wall and ceiling construction and finish
16.03.05	knowledge of utilities inside wall and floor
16.03.06	ability to cut mouldings
16.03.07	ability to use installation tools such as mitre saw, coping saw and pneumatic tools
16.03.08	ability to secure mouldings with fasteners such as nails and trim head screws
16.03.09	ability to conceal nail and screw holes

BLOCK H — SPECIALIZED OPERATIONS

Trends

Stair building, applying solid surfaces, decorative woodworking and restoration are performed by cabinetmakers due to their wide scope of knowledge, training and abilities. They are specialty skills and may require additional experience, training and certification to master. Some cabinetmakers are now specializing in these fields to fill a gap in the market.

Related Components

Stair components, countertops, furniture, cabinets and mouldings, architectural millwork.

Tools and Equipment

Hand tools, portable power tools, stationary power tools, automated tools, layout tools, PPE and safety equipment.

Task 17 — Builds stairs and balustrades.

Context

This task focuses on the activities that are specific to building stairs and balustrades. Cabinetmakers should be able to use their acquired skills to lay out and build stairs and balustrades; however, this is considered to be a specialized task.

Sub-task 17.01 — **Lays out stair and balustrade components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

17.01.01	knowledge of considerations involved in building stairs such as required headroom, and rise and run ratios
17.01.02	knowledge of building codes
17.01.03	knowledge of stair styles such as straight, winders, spiralled and curved
17.01.04	knowledge of stair components such as treads, risers, stringers and volutes
17.01.05	knowledge of stair layout

17.01.06	knowledge of site accessibility and conditions
17.01.07	ability to perform mathematical calculations
17.01.08	ability to prepare full scale layouts
17.01.09	ability to use layout tools such as framing squares, angle finders and trammel points

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Sub-task 17.02 **Machines stair and balustrade components.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

17.02.01	knowledge of machining techniques
17.02.02	knowledge of joinery techniques such as dowels, mortise and tenon and dados
17.02.03	knowledge of stair components such as treads, risers, hand rails, stringers and volutes
17.02.04	knowledge of wood properties such as strength, shrinkage and warping
17.02.05	ability to use jigs and templates
17.02.06	ability to form and bend components
17.02.07	ability to shape balusters and newel posts by using equipment such as lathes, shapers, moulders and saws
17.02.08	ability to use tools and equipment such as routers, saws, jointers and planers

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Sub-task 17.03 **Assembles stairs and balustrades.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

17.03.01	knowledge of stair assembly techniques
17.03.02	knowledge of clamping techniques
17.03.03	knowledge of sequence of assembly in the shop and on-site

17.03.04	ability to use adhesives, fasteners and wedges
17.03.05	ability to use tools and equipment such as clamps and drills
17.03.06	ability to pre-fit components in larger sections
17.03.07	ability to construct stairs in sections
17.03.08	ability to identify and label various sections of final product for site assembly
17.03.09	ability to preassemble and disassemble stairs

Sub-task
17.04 **Installs stairs and balustrades.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

17.04.01	knowledge of stair construction
17.04.02	knowledge of sequence of on-site assembly
17.04.03	knowledge of sequence of work done by other trades
17.04.04	knowledge of wall, floor and ceiling construction and finish
17.04.05	ability to use fasteners such as screws, nails and bolts
17.04.06	ability to reassemble stairs on-site
17.04.07	ability to level and plumb stairs using devices such as shims, plumb bobs, levels and laser levels
17.04.08	ability to adjust stairs according to site conditions
17.04.09	ability to use assembly tools such as portable power tools, pneumatic tools and clamps
17.04.10	ability to apply adhesives

Task 18 Works with solid surface material.

Context

This task focuses on the activities specific to working with solid surface materials rather than repeating tasks that have been covered in other blocks. Solid surfaces are composite materials used mainly for countertops, windowsills and backsplashes. Cabinetmakers should be able to use their acquired skills to apply solid surfaces; however, it is considered to be a specialized task and may require certification in order to validate warranties.

Sub-task 18.01 Prepares solid surface material.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

18.01.01	knowledge of manufacturers' certification program requirements to work with and warranty solid surfaces
18.01.02	knowledge of solid surface material properties such as sheet sizes and thicknesses
18.01.03	knowledge of solid surface material adhesives
18.01.04	ability to use tools and equipment such as routers, sanders and saws
18.01.05	ability to weld joints of solid surface materials
18.01.06	ability to machine, polish and clean solid surface materials
18.01.07	ability to recognize hazards of working with solid surface materials

Sub-task 18.02 Installs solid surface material.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

18.02.01	knowledge of manufacturers' specifications

18.02.02	knowledge of manufacturers' certification program requirements to work with and warranty solid surfaces
18.02.03	knowledge of solid surface material properties
18.02.04	knowledge of solid surface material adhesives
18.02.05	ability to use tools and equipment such as routers, sanders and saws
18.02.06	ability to weld joints of solid surface materials
18.02.07	ability to machine, polish and clean solid surface materials
18.02.08	ability to cut, fit and scribe solid surface materials
18.02.09	ability to repair solid surface materials

Task 19 Creates decorative woodwork. (NOT COMMON CORE)

Context Decorative woodwork is included in the cabinetmaker trade as a specialized application, either done on its own or applied as part of a product. Marquetry is the assembly of wood pieces to form patterns or images. Wood carving is shaping wood using tools such as chisels and carving knives.

Sub-task 19.01 Performs marquetry. (NOT COMMON CORE)

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	no	yes	no	NV	NV	NV

Supporting Knowledge & Abilities

19.01.01	knowledge of wood species
19.01.02	knowledge of wood characteristics such as grains, colours, burls and figuring
19.01.03	knowledge of marquetry assembly processes
19.01.04	ability to select wood
19.01.05	ability to cut and shape wood pieces using tools and equipment such as scroll saws, knives and sanders
19.01.06	ability to fit and tape wood pieces to create a marquetry pattern
19.01.07	ability to use adhesives

Sub-task 19.02 **Performs carving. (NOT COMMON CORE)**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	no	yes	no	NV	NV	NV

Supporting Knowledge & Abilities

19.02.01	knowledge of types of carving such as sculpting and relief
19.02.02	knowledge of wood species
19.02.03	knowledge of wood characteristics such as density, grain, knots, figuring and cracks
19.02.04	ability to use layout tools
19.02.05	ability to use carving tools and equipment such as clamps, carving knives, chisels and mallets

Task 20 Restores woodwork.

Context Restoring woodwork requires the cabinetmaker to repair building components such as furniture, historic windows and doors, cabinets and millwork components. They must also match the new component to the original.

Sub-task 20.01 **Repairs woodwork for restoration purposes.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

20.01.01	knowledge of furniture styles such as Chippendale, early French Canadian, Victorian, Westminster and Shaker
20.01.02	knowledge of moulding styles
20.01.03	knowledge of furniture disassembly and assembly methods
20.01.04	knowledge of joinery such as mortise and tenon, rabbet and butt

20.01.05	knowledge of wood characteristics
20.01.06	ability to determine the restoration requirements
20.01.07	ability to match woods
20.01.08	ability to layout and produce joints such as mortise and tenon, rabbet and butt
20.01.09	ability to replicate parts to match existing parts
20.01.10	ability to repair minor imperfections such as scratches, dents and chips
20.01.11	ability to maintain the integrity of the pieces (structural and visual)
20.01.12	ability to use adhesives according to the application
20.01.13	ability to use hand and power woodworking tools and equipment

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Sub-task

20.02 **Refinishes woodwork.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
no	yes	NV	yes	NV	yes	yes	yes	yes	yes	NV	NV	NV

Supporting Knowledge & Abilities

20.02.01	knowledge of wood characteristics
20.02.02	knowledge of finish removers
20.02.03	knowledge of finishes, both new and old
20.02.04	knowledge of historical finishing techniques
20.02.05	ability to scrape and sand surfaces for staining and finishing
20.02.06	ability to maintain the integrity of the pieces (finishing colour and patina)
20.02.07	ability to strip old finishes
20.02.08	ability to match existing finish
20.02.09	ability to use finishing tools and equipment
20.02.10	ability to disguise imperfections by staining, bleaching and toning

APPENDICES

APPENDIX A TOOLS AND EQUIPMENT

Hand Tools

bar clamps
bench hook
brushes
burnisher
C clamps
chalk line
chisels (wood, carving, turning)
clamps (bar, C)
countersink bits
doweling jig
drill
drill bits
driver bits
file card
files (wood, metal, laminate)
glass cutter
grease gun
hammer
honing stones
J-roller
level
mallet (rubber, dead blow, wood)
mitre trimmer
moisture meter
nail sets
oilcan
planes (jack, smooth, fore, block, router, rabbet)
pliers (side cutters, linesman, needle nose)
pry bar
putty knife
sanding block
saws (back, hack, dovetail, coping, keyhole, hand)
scraper (cabinet, paint)
scratch awl
screwdrivers
spokeshave
utility knife
wheel dresser
wood rasp
wrenches

Portable Power Tools

angle grinder
biscuit cutter
drills (cordless, hammer, pneumatic, impact)
flush trimmer
glue gun
heat gun
laminate trimmer
nail/staple gun (pneumatic, electric, gas-powered)
power plane
powder-actuated tools
reciprocating saw
router and bits
sanders (detail, random orbital, belt, palm)
saws (reciprocating, circular, jig, mitre)
sprayer

Stationary Power Tools and Equipment

band saw
bench grinder
case clamp
clamp rack
compressor, air
continuous gluing machine
conveyorized glue applicator
copy grinder
curing ovens
curtain coater
double-ended (twin) saw
dovetailer
doweling machine
drill press
drying system
dust collector
gang saw
glue roller
guillotine
hinge boring machine
horizontal boring machine
horizontal copying lathe
jointer
lift tables
mortising machine
multi-boring machine
multi-spindle shaper
overhead pin router
panel saw (horizontal, vertical)
pneumatic press (clamping)
postforming machine
press (hot, cold)
profile and moulding sanding machine
radial arm saw
sanders (disc, wide belt, edge belt, spindle, oscillating, stroke)
scroll saw
shaper
spider clamps (clamp carrier)
spray booth
spraying systems
moulders
table saw
thickness planer
vacuum press
veneer saw
veneer splicer
wood lathe

Automated Equipment

automatic wide belt sander
beam saw
CNC machining center
copying lathe
edge banding machine
gang saw
mortising machine
multiblade rip saw
optimizing saw (computerised)
panel stacker
power feeders

Shop-manufactured related devices

arc cutter
assembling tables
assembly jigs
auxiliary fence
cauls
centre finders
cove-cutting fences
custom benches
feather boards
locating spacers

Shop-manufactured related devices (continued)

machining jigs
push blocks
push sticks
sanding blocks
saw horses
shooting board
sliding tables
steam bending box
straight edge
templates

Layout Tools

angle finder
calipers
chalk line
combination square
compasses
computer software
contour gauge
drawing board
framing square
hand calculator
imperial and metric scale rules
laser level
manual level
marking gauge
measuring tape
personal computer
plumb bob
scratch awl
set square
sliding T-bevel
speed square
spring clamps
steel square
straight edges
stud finder
T square
trammel points
try square

Metalworking Tools

centre punch
file
hack saw
metal shears

Personal Protective Equipment and Safety Equipment

apron
dust mask
ear protection
eye wash station
face shield
fire extinguisher
first aid kit
gloves
goggles
hair net
respirator
safety boots
safety glasses

APPENDIX B GLOSSARY

adhesive	a substance that is used to bond together materials by surface attachment.
architectural millwork	refers to furniture, cabinets and machined wood products such as doors, windows, stairways, mouldings, panelling, sidelights, transoms, trims, etc.
balusters	an upright supporting a handrail of a staircase or balcony.
balustrade	a row of repeating balusters surmounted by a capping or rail.
bleaching	to apply a chemical solution to wood surfaces for lightening the colour.
break out	to perform a rough-cut of material.
cabinet	a finished product that is attached to the wall or floor.
carving	shaping by cutting into a hard material such as wood, plastic, stone.
designing	a complex problem solving activity whereby the cabinetmaker must create, invent, search for and develop practical solutions to address technical problems.
final assembly	the final phase of production which involves the fitting together of previously subassembled components.
finishing	the application of finishing materials to wood surfaces for protection and to enhance appearance.
furniture	a finished product that is free standing.
gables	the vertical side or divider in a cabinet or piece of furniture.
inlaying	the process of decorating by setting previously cut pieces into recessed surfaces.
jigs	devices specifically designed and built for the safe performance of repetitive work. They may be used either to hold the work in place or to guide the tools during machining or assembly processes.
laminating	The adhering of 2 or more pieces of wood or composite material to achieve a desired width or thickness.
layout	the process of setting out full size patterns and shapes of parts and components of cabinet/furniture and architectural woodwork

	components.
marquetry	the craft of covering a structural carcass with veneer forming decorative patterns, designs or pictures.
prototype	a preliminary version or full-scale model of a cabinet or furniture item, built to ascertain the soundness of the design features. it also helps the production planning process.
reconstituted veneers	veneers made from natural timber veneers, dyed all the way through, then laminated together and re-sliced to make veneers in unique patterns and colours.
refinishing	to repair and restore finished surfaces of furniture and cabinets.
restoring	to repair and reconstruct furniture and cabinet components.
scribe	to draw a line in order to cut a component to fit the profile of an uneven surface.
shop drawing	technical drawing used to communicate detailed specifications and dimensions of furniture and cabinet items.
steam-bending	the process of bending wood while it has been steamed to a malleable state.
templates	a pattern guide or model used for laying out or for verifying the accuracy of machined parts.
turning	the shaping of wood or metal on a lathe.
veneer	a thin layer of wood, sliced, cut or sawed to even thickness.
veneering	to prepare and cover surfaces with thin layers of wood or veneers.
Workplace Hazardous Materials Information System (WHMIS)	Canadian legislation governing the use of hazardous materials in the workplace.

APPENDIX C ACRONYMS

CNC	Computer Numerically Control
HPL	high pressure laminate
MDF	Medium Density Fibreboard
MSDS	Material Safety Data Sheet
OH&S	Occupational Health and Safety
PPE	personal protective equipment
PVA	polyvinyl acetate
PVC	polyvinyl chloride
WHMIS	Workplace Hazardous Materials Information System

APPENDIX D BLOCK AND TASK WEIGHTING

BLOCK A OCCUPATIONAL SKILLS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	21	12	NV	14	NV	10	20	22	20	7	NV	NV	NV	16%

Task 1 Maintains tools and equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	28	50	NV	36	NV	20	20	26	15	28	NV	NV	NV	28%

Task 2 Organizes work.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	31	15	NV	20	NV	40	40	34	30	22	NV	NV	NV	29%

Task 3 Performs routine trade activities.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	41	35	NV	44	NV	40	40	40	55	50	NV	NV	NV	43%

BLOCK B MACHINING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	11	22	NV	18	NV	25	20	18	20	20	NV	NV	NV	19%

Task 4 Machines components using stationary and portable power tools.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	59	75	NV	80	NV	60	90	85	65	75	NV	NV	NV	74%

Task 5 Machines components using automated equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	41	25	NV	20	NV	40	10	15	35	25	NV	NV	NV	26%

BLOCK C FORMING AND LAMINATING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	9	8	NV	9	NV	15	10	8	10	17	NV	NV	NV	11%

Task 6 Bends wood and composite materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	40	25	NV	35	NV	30	65	53	30	50	NV	NV	NV	41%

Task 7 Laminates wood and composite materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	60	75	NV	65	NV	70	35	47	70	50	NV	NV	NV	59%

BLOCK D VENEERS AND LAMINATES

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	10	10	NV	10	NV	10	10	7	10	10	NV	NV	NV	10%

Task 8 Applies veneers.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	0	50	NV	46	NV	60	30	50	55	75	NV	NV	NV	46%

Task 9 Applies laminates.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	100	50	NV	54	NV	40	70	50	45	25	NV	NV	NV	54%

BLOCK E SHOP ASSEMBLY

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	18	20	NV	16	NV	15	20	17	20	19	NV	NV	NV	18%

Task 10 Assembles cabinets and furniture.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	55	60	NV	66	NV	50	55	65	55	45	NV	NV	NV	56%

Task 11 Assembles architectural millwork products.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	45	40	NV	34	NV	50	45	35	45	55	NV	NV	NV	44%

BLOCK F FINISHING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	10	8	NV	12	NV	10	5	7	5	12	NV	NV	NV	8%

Task 12 Prepares surface for finishing.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	52	60	NV	59	NV	65	70	50	40	60	NV	NV	NV	57%

Task 13 Finishes wood products.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	48	40	NV	41	NV	35	30	50	60	40	NV	NV	NV	43%

BLOCK G ON-SITE ASSEMBLY AND INSTALLATION

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	11	15	NV	13	NV	11	10	16	10	10	NV	NV	NV	12%

Task 14 Modifies products to site conditions.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	37	30	NV	20	NV	40	55	28	30	20	NV	NV	NV	32%

Task 15 Installs cabinets and countertops.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	29	50	NV	51	NV	30	30	28	40	35	NV	NV	NV	37%

Task 16 Installs architectural millwork products.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
%	34	20	NV	29	NV	30	15	44	30	45	NV	NV	NV

31%

BLOCK H SPECIALIZED OPERATIONS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	10	5	NV	8	NV	4	5	5	5	5	NV	NV	NV	6%

Task 17 Builds stairs and balustrades.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
%	49	50	NV	38	NV	25	40	45	20	55	NV	NV	NV

46%

Task 18 Works with solid surface material.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
%	51	20	NV	8	NV	25	15	31	20	27	NV	NV	NV

28%

Task 19 Creates decorative woodwork.
(NOT COMMON CORE)

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
%	0	10	NV	20	NV	25	15	0	25	0	NV	NV	NV

NCC

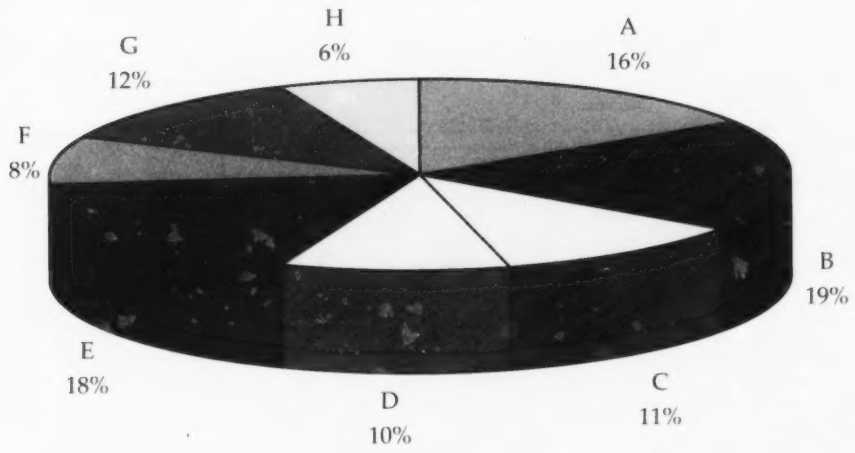
Task 20 Restores woodwork.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
%	0	20	NV	34	NV	25	30	24	35	18	NV	NV	NV

26%

APPENDIX E

PIE CHART*



TITLES OF BLOCKS

BLOCK A	Occupational Skills	BLOCK E	Shop Assembly
BLOCK B	Machining	BLOCK F	Finishing
BLOCK C	Forming and Laminating	BLOCK G	On-site Assembly and Installation
BLOCK D	Veneers and Laminates	BLOCK H	Specialized Operations

* Average percentage of the total number of questions on an interprovincial examination, assigned to assess each block of the analysis, as derived from the collective input from workers within the occupation from all areas of Canada. Interprovincial examinations typically have from 100 to 150 multiple-choice questions.

APPENDIX F — TASK PROFILE CHART — Cabinetmaker

	BLOCKS	TASKS	SUB-TASKS				
A	OCCUPATIONAL SKILLS	1. Maintains tools and equipment.	1.01 Maintains hand tools.	1.02 Maintains portable power tools.	1.03 Maintains stationary power tools and equipment.	1.04 Maintains pneumatic tools and equipment.	1.05 Maintains powder-actuated tools.
			1.06 Maintains finishing equipment.	1.07 Maintains personal protective equipment (PPE) and safety equipment.			
		2. Organizes work.	2.01 Communicates with others.	2.02 Uses documentation.	2.03 Interprets prints and drawings.	2.04 Plans project tasks.	2.05 Performs basic design.
			2.06 Performs layout of cabinets, furniture and architectural millwork.	2.07 Maintains safe work environment.			
		3. Performs routine trade activities.	3.01 Measures.	3.02 Installs hardware.	3.03 Handles materials, supplies and products.	3.04 Sands components.	3.05 Fabricates jigs and templates.
			3.06 Builds prototypes.	3.07 Applies edge to substrate.	3.08 Dry fits components.		
B	MACHINING	4. Machines components using stationary and portable power tools.	4.01 Breaks out solid wood.	4.02 Dresses solid wood.	4.03 Shapes solid wood.	4.04 Breaks out sheet materials.	4.05 Machines sheet materials.
			4.06 Machines joints.				
		5. Machines components using automated equipment.	5.01 Sets up automated equipment.	5.02 Operates automated equipment.			

	BLOCKS	TASKS	SUB-TASKS			
C	FORMING AND LAMINATING	6. Bends wood and composite materials.	6.01 Builds forms.	6.02 Performs curved laminating.	6.03 Steam-forms wood.	
		7. Laminates wood and composite materials.	7.01 Arranges materials for laminating.	7.02 Applies adhesive for laminating.	7.03 Clamps pieces together.	
D	VENEERS AND LAMINATES	8. Applies veneers.	8.01 Prepares veneers.	8.02 Adheres veneers to substrates.	8.03 Trims veneers.	
		9. Applies laminates.	9.01 Prepares laminate sheets.	9.02 Adheres laminate to substrate.	9.03 Trims laminate.	
E	SHOP ASSEMBLY	10. Assembles cabinets and furniture.	10.01 Assembles cabinet components.	10.02 Assembles furniture components.	10.03 Installs doors and drawer fronts.	10.04 Installs face frames.
		11. Assembles architectural millwork products.	11.01 Assembles components into sections in the shop.	11.02 Combines sections into architectural millwork products in the shop.		
F	FINISHING	12. Prepares surface for finishing.	12.01 Repairs minor imperfections.	12.02 Performs final sanding of surfaces.		
		13. Finishes wood products.	13.01 Prepares finishing materials.	13.02 Applies finishing material manually.	13.03 Sprays on finishing material.	
G	ON-SITE ASSEMBLY AND INSTALLATION	14. Modifies products to site conditions.	14.01 Cuts access holes on site.	14.02 Scribes to fit on site.	14.03 Finalizes installation on site.	
		15. Installs cabinets and countertops.	15.01 Performs final on-site assembly of cabinets and countertops.	15.02 Fastens cabinets and countertops.		

BLOCKS	TASKS	SUB-TASKS			
	16. Installs architecturai millwork products.	16.01 Performs final on-site assembly of architectural millwork products.	16.02 Fastens architectural millwork products.	16.03 Installs mouldings	
H SPECIALIZED OPERATIONS	17. Builds stairs and balustrades.	17.01 Lays out stair and balustrade components.	17.02 Machines stair and balustrade components.	17.03 Assembles stairs and balustrades.	17.04 Installs stairs and balustrades.
	18. Works with solid surface material.	18.01 Prepares solid surface material.	18.02 Installs solid surface material.		
	19. Creates decorative woodwork. **(NOT COMMON CORE)**	19.01 Performs marquetry. **(NOT COMMON CORE)**	19.02 Performs carving. **(NOT COMMON CORE)**		
	20. Restores woodwork.	20.01 Repairs woodwork for restoration purposes.	20.02 Refinishes woodwork.		